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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/867,175 | 05/29/2001 | Robert Pfeffer | 476-1923.1 | 6796 |
| 7590 | 02/08/2005 | | EXAMINER | |
| William M. Lee, Jr. Lee, Mann, Smith, McWilliams, Sweeney & Ohlson P. O. Box 2786 Chicago, IL 60690-2786 | | | WILSON, ROBERT W | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2661 | |

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,175

Applicant(s)

PFEFFER ET AL.

Examiner

Robert W Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1.0 The application of Pferrer et. al. entitled POINT TO MULTIPOINT NETWORK filed on 5/29/01 requesting benefit from 60/207,800 dated 5/30/00. Claims 1-20 are pending.

Claim Rejections - 35 USC § 103

2.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al.

(U.S. Patent No.: 6,834,057) in view of Data-over-Cable Service Interface Specification .

Referring to Claim 1, Rabenko teaches: A point-to-multipoint network arrangement (point to multipoint per col. 3 line 28 and Figs 1 & 2 or network)

A head-end station (1013 per Fig 1 or 1012 per Fig 2) with at least one subscriber station (CABLE MODEM or subscriber station per Fig 2) in a point-to-multipoint network (point-to-multipoint per col. 3 line 28) providing shared medium (Fiber network per Fig 1 or HFC per Fig 2) between the head-end and the subscriber. The packets (col. 4 lines 64-67) are sent in TDMA (col. 4 lines 64-67)

Rabenko does not expressly call for: without need to further segment the packet-switched protocol packets but teaches packets are sent in TDMA frames between the CMTS or headend and the cable mode or subscriber per col. 4 lines 64-67

Data-over-Cable Service Interface Specification teaches: without need to further segment the packet-switched protocol packets (On Page3 lines 1-10 of the applicant's specification the applicant defines without segmentation or the lack of segmentation as packet switched protocols are transported from the headend to the subscriber without further needing segmentation. On Pg 53 in Para 6.2.2 of the Data-Over-Cable the reference teaches that the MAC sublayer must be able to support a variable-length Ethernet type PDU across the whole network in its entirety per Pg 53. The examiner interprets this to mean that the Ethernet does not need further segmentation)

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It would have been obvious to one of ordinary skill in the art at the time of the invention to add the MAP PDU which carries an variable length Ethernet frame across the network in entirety as without further segmentation of Data-over Cable Service Interface Specification to the packet of Rabenko in order to be standards compliant.

In Addition Cable Over Data teaches:

Regarding Claim 2, in which the packet-switched transport protocol employs packets formatted according to an Ethernet protocol (Pgs 11-20 and 47-54)

Regarding Claim 3, in which the packet-switched transport protocol is arranged to carry Internet Protocol data (Pgs 1-2, 11-12, & 16)

Regarding Claim 4, in which the packet-switched transport protocol is arranged to carry unsegmented Ethernet frames (The examiner has interpreted segmentation as the cutting up of Ethernet packets before they are inserted into the MAP PDU. On Pg 53 in Para 6.2.2 the spec teaches that the MAC sublayer must be able to support a variable-length Ethernet type PDU across the whole network in its entirety per Pg 53. The examiner interprets this to mean that the Ethernet PDU does not need to be segmented)

Regarding Claim 5, in which the TDMA protocol employs frames each arranged to carry multiple packet-switched transport protocol packets (MPEG, Ethernet, or ATM per Pgs 49-57 or multiple packet protocols)

Regarding Claim 11, in which each subscriber station is allocated to one of a plurality of groups, each group transmitting on a distinct physical channel (Channel ID or distinct physical channel per Pg 75)

In Addition Rabenko teaches

Regarding Claim 6, in which the at least one subscriber station is arranged to periodically receive synchronization signals transmitted from the head end-station (Fig 11 or col. 7 lines 30-36)

Regarding Claim 7, in which differential time delays arising from differing paths lengths between the head-end station and outstation are absorbed by including guard bands in the TDMA protocol (Guard bands per col. 7 line 65-col. 8 line 5)

Regarding Claim 8, in which the point-to-multipoint network is an optical network (point-to-multipoint per col. 3 line 28)

Regarding Claim 9, in which the optical network is a passive optical network (The primary reference Rabenko teaches a Fiber network per Fig 1. The examiner takes official notice that a PON is a type of a fiber optic network per WO 98/44758 per Pg 3 lines 1-35. It would have been

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obvious to one of ordinary skill in the art at the time of the invention to utilize the PON in the network of Rabenko because it is a type of Fiber optic network.)

Regarding Claim 10, in which the point-to-multipoint network is one of a wireless network and a high speed copper network (The applicant indefinitely claims one of a wireless network and which the examiner interprets as meaning or high speed copper network. The primary reference teaches a HFC NETWORK or Hybrid Fiber Copper per Fig 2. It would have been obvious to one of ordinary skill in the art at the time of the invention that the Hybrid Fiber Copper network is another name for a high speed copper network)

Regarding Claim 12 comprising a point to multipoint network arrangement (point-to-multipoint per col. 3 line 28)

Regarding Claim 13 comprising a telecommunications access network comprising a passive optical network arrangement (The primary reference Rabenko teaches a Fiber network per Fig 1. The examiner takes official notice that a PON is a type of a fiber optic network per WO 98/44758 per Pg 3 lines 1-35. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON in the network of Rabenko because it is a type of Fiber optic network. Utilization of a PON network as an access network is a design choice.)

Regarding Claim 14, telecommunications network comprising a passive optical network arrangement (The primary reference Rabenko teaches a Fiber network per Fig 1. The examiner takes official notice that a PON is a type of a fiber optic network per WO 98/44758 per Pg 3 lines 1-35. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON in the network of Rabenko because it is a type of Fiber optic network.)

.Referring to Claim 15, Rabenko teaches: A headend station for a point-to-multipoint network comprising at least one subscriber station (Headend or 1013 per Fig 1 or 1012 per Fig 2; point to multipoint per col. 3 line 28 and network per Figs 1 & 2)

And a point-to-multipoint network (point-to-multipoint per col. 3 line 28) providing shared medium (Fiber network per Fig 1 or HFC per Fig 2) or connectivity between each subscriber station and the head-end station and shared medium. The packets (col. 4 lines 64-67) are sent in TDMA (col. 4 lines 64-67)

Rabenko does not expressly call for: without the packet-switched protocol packets having further segmented but teaches multiple access protocol or MAP PDUs are sent in TDMA frames between the CMTS or headend and the cable mode or subscriber per col. 4 line 42-col. col. 8 line 5.

Data-over-Cable Service Interface Specification teaches: without the packet-switched protocol packets having further segmented (On Page 3 lines 1-10 of the applicant's specification the applicant defines without segmentation or the lack of segmentation as packet switched protocols

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are transported from the headend to the subscriber without further needing segmentation. On Pg 53 in Para 6.2.2 of Data-Over-Cable the references teaches that the MAC sublayer must be able to support a variable-length Ethernet type PDU across the whole network in its entirety. The examiner interprets this to mean that the Ethernet PDU does not need to be segmented)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the MAP PDU which carries an entire variable length Ethernet frame across the network or unsegmented of Data-over Cable Service Interface Specification to the MAP PDU of Rabenko in order to be standards compliant.

In Addition Rabenko teaches:

Regarding Claim 16, head end (Headend or 1013 per Fig 1 or 1012 per Fig 2)

In addition Cable-Over-Data teaches:

Regarding Claim 19, in which the TDMA protocol employs frames each arranged to carry multiple packet-switched transport protocol packets (MPEG, Ethernet, or ATM per Pgs 49-57 or multiple packet protocols)

Regarding Claim 17, Rabenko teaches: A method of operating a point-to-multipoint (point to multipoint per col. 3 line 28) network (Figs 1 & 2) with a head-end station (1013 per Fig 1 or 1012 per Fig 2), at least one subscriber station (Cable Modem or subscriber station per Figs 1 or 2). The packets (col. 4 lines 64-67) are sent in TDMA (col. 4 lines 64-67)

Rabenko does not expressly call for: configured to obviate segmentation of packet-switched transport protocol but teaches multiple access protocol or MAP PDUs are sent in TDMA frames between the CMTS or headend and the cable mode or subscriber per col. 4 line 42-col. col. 8 line 5.

Data-over-Cable Service Interface Specification teaches: without need to further segment the packet-switched protocol packets (On Page3 lines 1-10 of the applicant's specification the applicant defines without segmentation or the lack of segmentation as packet switched protocols are transported from the headend to the subscriber without further needing segmentation.

The examiner has interpreted obviate segmentation as not needing to further cut up of Ethernet packets before they are inserted into the MAP PDU. On Pg 53 in Para 6.2.2 of Data-Over-Cable the references teaches that the MAC sublayer must be able to support a variable-length Ethernet type PDU across the whole network in its entirety. The examiner interprets this to mean that the Ethernet PDU does not need to be segmented or obviating segmentation)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the MAP PDU which carries an entire variable length Ethernet frame across the network or

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unsegmented of Data-over Cable Service Interface Specification to the packet of Rabenko in order to be standards compliant.

Claim Rejections - 35 USC § 102

3.0 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18 & 20 are rejected under 35 U.S.C. 102(B) as being anticipated by Safadi (U.S. Patent No.: 5,696,765).

Referring to Claim 18, Safadi teaches: A communication signal (Fig 6) comprising a sequence of TDMA frames (410) each separated by a guard band (414), and each TDMA frame arranged to carry at least one complete packet-switched transport protocol packet (size of the frame varied in order to carry a number of packets or a complete packet per col. 17 lines 15-34)

Referring to Claim 20, Rabenko teaches: An upstream communication signal (Fig 6) in a point-to-multipoint access network (connection between a network controller and Set top box is inherently point to multipoint as shown in Fig 7), the signal comprising a sequence of TDMA frames (410) each separated by a guard band (414) and a complete packet (size of the frame varied in order to carry a number of packets or a complete packet per col. 17 lines 15-34)

Claim Rejections - 35 USC § 112

4.0 The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Referring to Claim 10, What is meant by "one of wireless and a high speed copper network"? The applicant is using "and" when they mean "or".

Specification


5.0 The examiner objects to the reference a figure in the Abstract. The examiner requests that the applicant remove the reference to the figure.

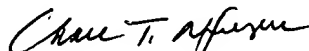
Conclusion

6.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571/272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Robert W Wilson
Examiner
Art Unit 2661


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